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The organization of an American university medical clinic

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THE ORGANIZATION OF AN AMERICAN UNIVERSITY MEDICAL CLINIC*

IN any institution, organization is the body—dead, unless animated by and expressing aims and ideals; and, as in the scriptural antithesis between faith and works, ideals can come to fruition only as they are embodied in and realized through organization.

In America today no organization exists which expresses adequately the modern ideal of a medical clinic. The ideal is now widespread. The task of the present generation is to create an organization which shall best express, down to the minutest detail, the highest aims. Modern science has taught us more and more to look upon creation, however, not as the sudden making of something out of nothing, but as the gradual evolution of higher and more complex out of lower and simpler forms. We who are dissatisfied with existing conditions here do well to heed this teaching. Human organizations of whatever kind are intelligible only in the light of historic development. Any future forms must have their roots in the institutions of yesterday and today, and of our own country. We may study the examples of other lands and learn from their experiences much to admire, much to avoid; but nothing to be copied blindly without adaptation.

Perhaps I should define at the outset just what I mean by a medical clinic. I conceive that a medical clinic is a complete, independent hospital department equipped for and engaged in teaching internal medicine. From its very nature, then, the medical clinic serves two masters—the hospital and the teaching institution; it has entrusted to it dual interests—the bodies of the patients and the minds of the students. Can it serve both masters and safeguard both trusts equally and faithfully? That, I believe, is for the American university medical clinic of the future to prove. We should be satisfied with nothing else. That the task is a more difficult one than confronts any other university department seems clear. That it has ever been fully accomplished, I shall not dare claim.

* Address delivered before the Aesculapian Club of Boston, January 20, 1912.

With perhaps a single exception, such medical clinics as exist in America today are organized frankly for the benefit of the patient, as conceived by a lay board of hospital managers. Nor should we blame these men. Any change which medical teachers propose must abate not one jot or tittle of this solicitude for the sick man, the first care alike of hospital physician and hospital manager. I am convinced that nowhere in the world does a hospital patient receive such good care as in our best American hospitals. This is due in part to the excellence of the nursing organization, and in part to the high level of administrative ability and the rather ample resources of our finest hospitals; and last but not least to the hearty cooperation between medical, nursing, and administrative staffs. At bottom, however, it is dependent upon medical self-sacrifice for its existence, and often breaks down when this is too severely taxed. For this very reason, our traditional American hospital cannot be considered as having a permanent form of organization, because no institution can depend indefinitely and at all times upon voluntary service—not even the time-honored House of Commons, as we have but recently seen. At this point of least resistance the typical American hospital service is already breaking down. In one way or another, permanent, trained, technical assistants in laboratories, in x-ray departments, in departments of physical therapeutics, are proving necessary for the modern diagnosis and treatment of the sick and are rapidly being introduced. In many hospitals semi-permanent, paid, resident medical officers are being placed over the unpaid interne staff. Who shall direct and coordinate the various activities of these men, to the end that the patient may receive the full benefit? Surely not a series of busy practitioners themselves untrained in such methods and changing every few months. Under such a system, our hospitals would soon become bureaucracies, governed by subordinates; perhaps some already are. Even under the traditional system, house staffs were frequently more important than their superiors in determining the character and scope of the hospital's work. Here is the American hospital's need for the American university, and the opportunity for the American university medical clinic. Of the university's need for the hospital so much has already been well stated that repetition would be but a waste of time.

In evolving from the best existing American hospitals the American clinic of the future, what may be learned from the experience of Great Britain, of Germany, of France? First, it is clear that however different in detail the forms of organization in these countries, all have this in common, that a hospital unit is always under the direction of a single physician. The rotating visiting service in the United States was clearly a temporary expedient, to meet the conditions of new institutions in a new country devoted to democratic ideals. Resources were not available and the physicians could not be paid, and therefore could not be asked to give their services except for a limited portion of the year. It was desirable, too, that, in small communities, the hospitals should contribute as much as possible to the education of the entire medical profession, as general practitioners; and in small communities today the system seems well-suited to supply the community's most urgent need, the raising of the general level of efficiency among its physicians. In cities large enough to become educational centers, the end of the system is already in sight.

The organization of the English and Scottish teaching hospitals is based primarily upon their fundamental method of clinical instruction—the clerkship under visiting physicians of ripe experience. That method is the great contribution of Great Britain to medical education. Last summer in Munich I was an auditor at Professor Friedrich Müller's first clinic after his return from England, where he had gone to testify before the British Royal Commission on Medical Education. He told his students that two things he had seen had greatly impressed him: First, an examination which he said was conducted with more rigor and thoroughness than any he had known; secondly, the work of the clinical clerks. The practical instruction of the British medical student as a clerk, he told his hearers, was far superior to any similar instruction in Germany, their *Praktikantenjahr* at the end of the medical course being but a makeshift for continuous personal contact between student and patient. Germany's difficulty, he said, lay in the great number of medical students, which made any introduction of the clerkship system under present conditions impossible. We, here in America, thanks principally to the lead of Dr. Osler, have come

to appreciate and adopt this system. At Columbia it has been in complete operation now for three years with most conspicuous success—from the standpoint alike of the students, the teachers, and the hospitals.

Since in Great Britain the medical schools are for the most part intimately associated with a teaching hospital and only remotely with a university, the clinical teachers are not men of academic type, but look forward to a consulting practice as the real reward of their hospital activities. Being unpaid, they therefore prefer to undertake small services only, and the hospital consists of a number of such small independent units complete in themselves for the education of clinical clerks, but inadequate for other types of medical instruction. Since each physician has but forty or fifty beds at most under his care, his supervision of the treatment of patients is excellent; but his subordinates are inadequate for anything beyond bare routine. He has, as a rule, but one resident house officer, assisted by two grades of clinical clerks and well-trained nurses.

The German clinics, on the other hand, may be considered the expression of the German university system with its survival of the *cathedra* of the medieval schoolmen and its *akademische Lern- und Lehrfreiheit* for students and professors alike. The lecture or the large amphitheater clinic are the backbone of the instruction, and for the most part the student must arrange for his practical courses from the *Privatdozenten*. The clinics are large, the Leipzig medical clinic, for instance, having about eight hundred beds. The clinical lectures are admirable, and the whole organization is permeated with a spirit of the most active scientific investigation, but it is fundamentally autocratic. The care of the individual patient is largely the concern of the individual, rather than the object of the organization. The professor of medicine is the director of the clinic and is theoretically responsible for the supervision of the treatment of all patients. He has, as a rule, one assistant for each forty or fifty beds, the elder of these assistants being *Privatdozenten* in the university. Most of them are residents of the hospital. They have immediate charge of the care of their patients and the routine duties of the service, are actively engaged in investigation, give special courses in diagnosis, and so forth. They serve for an un-

limited period, often for many years, on small salaries, and pursue from the outset an academic career whose goal is a professorship. The best of them, selected through a stern competition in the field of scientific investigation, become the future directors of the German clinics, the first step in promotion being the habilitation as a professor, then the call to the directorship of one of the smaller university clinics. Finally, those who prove masters reach the directorships of the great medical clinics of the empire. In the care of the patients they are assisted by the rather uncertain supply of students taking the *Praktikantenjahr* and by volunteers pursuing research in the hospital. Judged again by American standards of care, the German system is weak at this point, while strong on its educational and scientific sides. The instruction of the individual student is similarly dependent upon the temperament of the teacher. No such system of carefully graded instruction, with well-planned practical courses, which must be taken in definite sequence, as we have it in America, would be tolerated in Germany; for the German university places the advancement of knowledge and the freedom of the professor first. The medical clinics are elaborate independent institutes, as a rule wonderfully equipped for research, as well as for the most perfect demonstrative teaching; but their very completeness and independence isolates them from the other scientific departments of the university. Lack of cooperation, even of contact, between the clinical institutes and the pathological, the physiological, the hygienic, and the chemical institutes is striking.

In France the medical student pursues two independent and parallel disciplines from the day of his entry on his medical career—one of theoretical and scientific instruction in the lecture rooms and laboratories of the universities, the other as externe, and finally, for the chosen few, as interne in the hospitals. The hospitals are thus widely separated from the scientific departments and the heads of the clinics give practical instruction in their hospitals, theoretical instruction in the usually distant university lecture room. Their hospital services are of moderate size, usually about one hundred beds, the newer ones fairly well equipped for research. The instruction carried on in them consists of amphitheater clinics and more or less formal lectures delivered to small sections at the bed-

side. The academic career in France leads of necessity to a large practice and promotion in it is at every point obtained by the passing of examinations conducted by the central authority, a system which greatly hinders freedom of choice of the teachers. The care of the patients is directed by the head of the clinic on his daily rounds, sometimes with an assistant who visits with him; but the real care is in the hands of the internes, about one for each fifty beds, also chosen by examination, serving for a fixed period of time and assisted by the externe medical students who are at the hospital but part of the day. Judged by the standards of our American hospitals, the number of physicians is inadequate for the best care of the patients.

The problem before the American hospital aspiring to become a teaching clinic is that of combining with what is best in its present organization—a high standard of care and consideration for its patients—such a well thought-out plan of education and such opportunities for research as shall embody all that has been gained by the experience of European hospitals and clinics. The determining considerations, therefore, fall into two categories—those which concern especially the work of the hospital, the care of the sick; and those which concern especially the university, the diffusion and advancement of knowledge. It will conduce to clarity of thought if we examine these two sets of considerations separately.

(1) *The care of patients.* From the standpoint of patients, the most important members of a hospital staff are its resident physicians. That system which attracts to the service of the institution the best educated of the younger men, and which retains them for the longest period of time, will ensure the highest standard of medical care. This seems certain to be a system which will provide not alone for the education of the house staff as general practitioners, but will also supply the stimulus to, and the opportunity for, scientific investigation on their part. Present house staffs serve the hospital with singular devotion, but they leave just when their services are becoming really efficient. They are overloaded with routine work. They have no personal stake in any research going on in the wards. Therefore, laboratory work and careful note taking, upon which the success of research depends, are a drudgery to be

endured only for the sake of the subsequent enjoyment of the final six months as house physician. Yet, in any modern hospital, the laboratory work and the note taking are to the medical service what aseptic technique and operating room organization are to the surgical. Thoroughness in these directions is the index of the care which the patients receive. Resident physicians serving for an indefinite term, and making their professional reputations by the work they do in the hospital, can alone give patients the best that medical science offers today.

These men must have subordinates, and to maintain the American standard of care, more subordinates than in foreign hospitals. Internes of the grade of the present junior members of hospital staffs should be provided for these positions, and their course should be planned with reference to training for general practice. From the best of these the resident physicians should be chosen.

On the other hand, the visiting physician in one way or another has been an essential feature of all American hospitals. He is only dispensed with in a few German hospitals where the director lives within the hospital and is charged with administrative duties which in this country are better handled by the hospital superintendent. The visiting physician constitutes an important link between the hospital and the medical profession of the community. Men pursuing a largely academic career in medicine and much occupied with teaching and the investigation of special problems, may lose somewhat of the practical and the personal point of view. Visiting physicians in charge of the general wards will ensure mature judgment for the patients and the best practical training for the house staff. Their relation to the teaching activities of the clinic will be discussed later.

The out-patient service is an indispensable part of a complete hospital unit, and is equally important for the care of patients and the instruction of students. Its organization should be part of the clinic organization. The English system, by which the assistant visiting physician has charge of the out-patient service, makes the English dispensaries far superior to the American, which are, as a rule, left to recent graduates who have no contact with the in-patient service. The adequate care of patients having chronic dis-

eases requires continuous management, extending over long periods of time—in the hospital ward during exacerbations of the disease, in the out-patient department during periods of quiescence. The head of the out-patient department must clearly be in touch with the ward service and in complete control of his subordinates.

Dr. Richard Cabot has shown how intertwined are the medical and social problems of an out-patient department. No American hospital is now complete without a social service department working in close cooperation with the medical clinic. Such a department, in addition to its usual functions, should make special provision for the following up of discharged patients. This system will eventually yield statistics with reference to the remote results of treatment, and it will ensure perseverance in treatment after the patient has been discharged. One may also expect that this evidence of the hospital's interest in them will create in those patients who have passed through its wards a feeling of personal loyalty to the hospital.

(2) *The extension of knowledge.* The extension of knowledge has two aspects equally the concern of the university—the handing down of existing knowledge, teaching; the acquisition of new knowledge, research. These are not independent of each other, for, in a university, research is the most important means for the education of the teachers themselves. The child in his study of arithmetic must apply the rules he learns to the solution of simple problems before he becomes master of this earliest mathematical science. The medical student must put into practice the methods of examination which he has acquired in the diagnosis of actual cases of disease. The advanced student of medicine, in which category all teachers belong, must constantly exercise himself in the investigation of the unsolved problems of medicine as the most important means of further enlarging his mental horizon.

Medical teaching must be of two types, extensive and intensive. By extensive teaching I mean the application of the broad underlying principles of pathological anatomy, of physiology, bacteriology, and chemistry to the study of disease in man; and the familiarizing of the student with the varied manifestations of disease on as large a scale as possible. Such extensive teaching must be done

through lectures and through large demonstrative amphitheater clinics. This is clearly the task of the head of the teaching department. It is possible only where large and varied clinical material is at the command of this head, so that at all times theoretical discussion may be based upon clinical fact demonstrated to the student. The larger the service under the control of a single professor, the more perfectly can this important part of the student's education be accomplished. This is the chief advantage of the German organization. In addition to such clinical lectures, recitations from a text-book covering the field of medicine systematically seem indispensable in our American schools.

Intensive teaching is the thorough training of the student in the technique of all the methods of diagnosis and of the various therapeutic procedures, and in his gradual education in the application of them to the diagnosis and treatment of disease in the individual patient. This requires intimate contact between student and patient toward the end of the medical course, with opportunity for the closest first-hand study of a small number of patients continuously for a moderate period. For this, no system approaches in efficiency the English clinical clerkship, which has now for three years been so important a part of the fourth year work of the Columbia students of medicine, following earlier years of thorough drill in the methods of physical and laboratory diagnosis. Such clinical clerks can perhaps best be taught by men of the type of our present visiting physicians, controlling units of service, with adequate laboratories and teaching rooms adjacent to their wards.

Another, and at the present time largely neglected part of the student's education, is his introduction to the literature of medicine and his training in its wise and profitable use. A well-stocked library with full files of all important scientific and clinical journals, monographs, and text-books is an essential part of a medical clinic. Beyond this, in America we have been able to develop, and should aim largely to increase, the coordination between the scientific instruction of the student's earlier years and the clinical instruction of his later years. Cooperative teaching in which clinician and pathologist, bacteriologist, physiologist, or chemist combine to present forcibly to the student the bearing of pure laboratory studies

upon the diagnosis and treatment of the individual patient, and of fundamental scientific investigation upon the progress of clinical medicine, should be a definite part of the curriculum. In the same way, conferences between the members of these departments and the hospital physicians should contribute to the education of both and the increasing efficiency of the hospital. The education of the members of the clinic's staff is equally as important as the teaching of students. There should be seminars conducted by the head of the department, conferences on research work in which all members of the staff should participate, and a constant attempt in every way to train the teachers and leaders in clinical medicine of the next generation.

The conditions for successful scientific investigation are: reasonable permanence of tenure, so that the best methods for the particular problem in hand may be mastered; freedom from the distractions of practice and from overmuch routine teaching; a good equipment of the tools of research; and a well-stocked library, particularly of the journal literature. Permanence of tenure obtains in all higher university appointments. Freedom from the need to practice must be secured by the provision of liberal salaries for the men who are to make academic careers in clinical medicine. Tools of investigation comprise laboratories connected with the medical clinic and under the entire control of its head, with all the apparatus necessary for the particular lines of work which may be pursued by the chief or any of his assistants, and with trained technical assistants who shall be to the director of the clinic what proper bookkeepers are to the head of a large business. The elaborateness of these laboratories will depend upon the resources of the clinic, and should be commensurate with the productiveness of its staff. When problems arise which require a degree of technical skill not possessed by any member of the clinic's staff, then the head of the proper scientific department should be called in to advise, and if desirable, to have his department undertake the problem. On the other hand, should work in physiology or in bacteriology, for instance, already successfully carried on in one of those departments, require for its completion the study of patients in the wards, the opportunity should be freely accorded the department in question.

The successful investigation of disease along certain lines, and in particular by chemical study, cannot be carried on in the ordinary hospital ward. Special, small wards, with a more highly trained staff and a more permanent nursing organization, should be at the disposal of the head of the clinic for the conduct of his research work, and that of his subordinates who are particularly engaged in scientific studies. Patients should be taken from the regular service of the clinic to these special wards and returned to the regular wards after the study of their cases has been completed.

For the building up of an active school of clinical investigators a master is required, constantly ready to suggest problems to the younger men and to aid them in their solution. The university and the hospital should be free to choose such a master wherever he may be found and call him to the service of the clinic. For this, again, a salary which shall make any but the most limited consulting practice unnecessary, will be requisite. The master in his turn should be free to accept at will voluntary assistants in the research work of the clinic, and there should be ample provision made in this direction, apart from the staff necessary for the conduct of the routine work of the hospital and the teaching institution.

The organization which will most perfectly fulfill the conditions laid down would be possible in a hospital service of approximately one hundred and fifty medical beds, with an out-patient department. A smaller number of beds could scarcely provide enough material for the extensive teaching outlined; a larger number would severely tax the strength and administrative ability of any but an intellectual and physical giant—or else the supervision will be far from ideal. Such a division should have three complete units of service, each consisting of one male and one female ward of approximately twenty-two beds, a few of these beds being in small rooms; a clinical laboratory, a teaching room and office for the visiting physician, and the necessary service rooms of various kinds for the wards. Each such unit should have a visiting physician, with the title of assistant professor or clinical professor in the university, spending a regular part of his day in the hospital, whose duties to the hospital should be the ones already familiar to his office, and whose duty in the medical school should be the instruction of clinical clerks

in the wards. He should, if possible, have a moderate salary. Where mature residents are not available, there should also be an associate visiting physician. He should have an assistant in charge of the out-patient service of the division, who would be his substitute in the wards during absences. This assistant in turn should have an understudy in the out-patient department. The assistant physicians would give instruction in physical diagnosis in the dispensary and conduct the recitations. Each unit should have a resident and an assistant resident physician, serving for an indefinite term. Under them should be one medical interne for each ward, appointed for one year, and from six to ten medical students serving as clinical clerks.

There should also be a separate service of about twenty beds in small wards and single rooms, with a resident and an assistant resident physician, chosen especially for their scientific promise and under the immediate charge of the director and the assistant director of the clinic. The subordinate work in these wards should be carried on by voluntary assistants coming to the clinic to pursue research, and no student clerks should be assigned to them. The assistant director should be chosen from the younger men pursuing an academic clinical career, and he should preferably do no practice whatever. He should have the immediate oversight of the research wards and the research laboratories of the clinic, and the oversight of the instruction in clinical pathology. He should give such of the general lectures and clinics as he might be especially equipped for; he should take the place of the director during the absence of the latter, and should have free entrance to all the divisions of the clinic. He should hold the title of associate professor in the university.

At the head of the clinic should be the director, who, in the university, should be at the head of the department of medicine. He should have general oversight of the entire ward service, but immediate responsibility only for such patients in the research wards as he should be directly studying. He should visit each of the three divisions of the clinic twice each week, at a stated hour, for consultation with the staff of the division. He should draw from all divisions of the clinic, and from the out-patient department, such cases as he might desire to present in his clinical lectures. He

should nominate all candidates for vacancies in any position in the clinic. He should have the supervision of all expenditures. He should be at the hospital for at least six hours during each working day, and for at least nine months of the year. Whether he should be allowed a limited consulting practice outside of the hospital would depend upon the available resources of the university to compensate him properly, and upon the provision for his receiving private patients at the hospital. It would seem to me to be clearly to the advantage of the hospital that he and the assistant director should have consulting rooms in the hospital, where patients might come to them, and rooms for the treatment of private patients.

The out-patient department should similarly be under the charge of a physician in chief, who should directly represent the director and who might serve in the hospital under the assistant director during vacations. He should have the direct oversight of all instruction in physical diagnosis and of expenditures.

A medical clinic such as has been outlined could undertake the whole instruction in medicine of from one hundred to one hundred and twenty students. An analysis of its organization shows at once that it is the British or Scottish teaching hospital, surmounted by a German university clinic. Our American hospitals were the direct outgrowth of their British predecessors, but they had to be cramped and modified to meet conditions originally provincial; now, in our large cosmopolitan cities, they are rapidly returning to their original lines. It does no violence to tradition, therefore, to integrate them into a great university medical school and to add to them that coordinating activity of a clinical master, which shall develop their latent possibilities of larger educational usefulness, and permeate them with that atmosphere of tireless scientific investigation, which Americans seek in Germany today. Is it too much to hope that, with American energy and open-handed American generosity at our disposal, the talent for organization—which has been so marked a feature of our contemporary industrial life—may in the next generation make of our American medical clinics institutions for the treatment of the sick, sought alike by poor and rich, and centers of instruction for the world?

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